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Amendments to the Specification:

Please replace paragraph [0003] with the following amended paragraph:

[0003] The lithography mask used in photolithography is generally known as a photomask, which is used to expose resist in selected areas. Typically, [[it]] the photolithography mask consists of chrome areas supported by a high-quality quartz plate. The former is opaque to UV radiation, while the latter is transparent to UV radiation. By selectively exposing areas of oxide deposits on a wafer, and after a number of subsequent steps including but not limiting to etching and doping, semiconductor integrated circuit (ICs) devices may be developed.

Please replace paragraph [0004] with the following amended paragraph:

[0004] As IC devices become[[s]] more complex and compact, precision in photolithography is increasingly required. One demand is to reduce the minimum-feature size of these devices, which in turn requires a proportional reduction in mask minimum-feature size. However, as the mask minimum-feature size becomes smaller, defect size also becomes smaller. Unfortunately, even a small, undetected defect may cause fatal defects in the final photolithographic image printed on the wafer-substrate. Since the occurrence rate of most defects is roughly inversely proportional to defect size, as mask minimum-feature size becomes smaller, the number of fatal defects increases in mask production.

Please replace paragraph [0013] with the following amended paragraph:

[0013] FIGS. 5A and 5B illustrate[[s]] ~~the relationship between~~ the aerial intensity and ~~corresponding~~the phase change, respectively, of a defect using conventional simulation tools~~in accordance with one example of the present disclosure~~.

Please replace paragraph [0016] with the following amended paragraph:

[0016] FIGS. 8A and 8B illustrate[[s]] ~~an improved relationship between~~ the aerial intensity and the phase change, respectively, of a defect with an exemplary grating area~~from the probe~~ in accordance with one example of the present disclosure.

Please replace paragraph [0029] with the following amended paragraph:

PAGE 4/22 * RCVD AT 11/30/2006 5:45:42 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-5/1 * DNIS:2738300 * CSID:6197442201 * DURATION (mm-ss):04-30

[0029] FIG. 6 graphically illustrates the relation between the phase change, $\Delta\Phi$, the grating groove depth, *d*, and the fill-factor, *f*. The fill factor is the fraction of the photomask surface inside the diffraction-grating that remains undisturbed ("filled" with quartz) after the grooves are cut, which is given by:

$$\cancel{f = (1 - s) / \Lambda} \quad \underline{f = 1 - (s / \Lambda)}$$

where

s = the "grating space" (groove width)

Λ = the grating pitch (center-to-center or side-to-side groove spacing)

FIG. 7 is a tabulation of values showing the relation between the fill factor, the grating depth, and the phase change.

Please replace paragraph [0031] with the following amended paragraph:

[0031] FIGS. 8A and 8B illustrate[[s]] the ~~adjusted~~ simulated aerial intensity and near field phase information, respectively, for the combined pit and the adjacent diffraction-gratings. In this case the intensity of the exposure light is reasonably constant, i.e the defect would not print. In this example, it can be seen that a groove depth of 16nm will give a proper phase-shift so that the pit is not going to cause the ghost image. The number of grooves in the grating would be chosen so that the width of the whole grating area is sufficient to result in a satisfactory final phase shift as indicated by the step width at roughly the 0.2 radians line level. As such, from the simulation, the width of grating area can be estimated.